

## ABSTRACT

This invention relates to a method and device for non-destructive testing of details, machine units and mechanisms, various materials, and in particular, to a  
5 method and device for non-destructive determination of residual stresses which are based on the optical holographic interferometry technique. First, a hologram of the investigation area of the object in its initial state is registered. Then the release of the residual stresses in  
10 an investigation point in the investigation area is performed by exposing the surface of the object to a high-current electric pulse with rectangular shape. Finally, an interferogram of the exact same area of the object is made, and the residual stresses at the  
15 investigation area are determined from the shape and size of the fringes in the interferogram.

Fig. 9